

Committee on Resources

Subcommittee on National Parks and Public Lands

Testimony

STATEMENT OF MAUREEN FINNERTY, ASSOCIATE DIRECTOR, PARK OPERATIONS AND EDUCATION, NATIONAL PARK SERVICE, BEFORE THE HOUSE SUBCOMMITTEE ON NATIONAL PARKS AND PUBLIC LANDS, COMMITTEE ON RESOURCES, REGARDING THE PRESENCE OF HANTAVIRUS AT CHANNEL ISLANDS NATIONAL PARK.

JUNE 29, 1999

Thank you for the opportunity to address the committee regarding this important issue. The stewardship responsibilities of the National Park Service require us to take care of the natural and cultural resources of the National Park System, and to ensure the safety of park visitors. In carrying out this role we are closely monitoring the hantavirus issue in Channel Islands National Park, and are taking steps to decrease the risk of hantavirus transmission, as well as to increase the public awareness of hantavirus.

Hantavirus has been present in the United States for several decades. Many cases have occurred in the arid southwest; 18 cases have occurred in California. Prior to 1993, the disease was referred to as ARDS (adult respiratory distress syndrome), and its causal agent was unknown. In 1993 a cluster of cases occurred in the Four Corners area. The pattern of cases enabled the Center for Disease Control to determine that the causal agent was a hantavirus.

Several species of rodents carry different strains of hantaviruses. The most common carrier, the deer mouse (Peromyscus maniculatus) occurs nationwide. Prior to 1993, hantavirus symptoms were not recognized as they resemble flu symptoms. Today symptoms are recognizable and treatable. Contracting the virus is difficult, with only 217 reported cases in the US prior to 1999. Of these 217 cases, 94 individuals (43%) have died as a result of the hantavirus.

The virus is usually contracted through the respiratory system. Viral particles become airborne when humans disturb or are exposed to rodent feces, urine or saliva, in a confined area or if bitten by an animal carrying the virus. The virus does not adversely affect the rodent.

The NPS initiated hantavirus precautions throughout the park system in 1993. Hantavirus has been monitored at Channel Islands National Park since 1993 when it was discovered in deer mouse populations on some of the islands. Since that time the NPS has increased both public and staff awareness of the risks of hantavirus, through publication of field notices, factual brochures, public awareness items and other steps, and has taken measures to reduce risks to both groups. There are few enclosed facilities at Channel Islands; fortunately, in this case, open-air situations and moisture greatly reduce the risk of contracting hantavirus. Public interest in the issue at Channel Islands was created by news reports of a seven-year-old boy on Santa Rosa Island who handled a deer mouse that later tested positive for antibodies to hantavirus. The boy was tested for hantavirus and the results were negative. I will provide more details on that incident in a moment. For now, let me emphasize that to date no one who has visited or worked on the Channel Islands has contracted hantavirus pulmonary syndrome, or has tested positive for the virus.

Following the well-known outbreak of hantavirus in the Four Corners area of the southwest in 1993, the management of Channel Islands National Park became concerned that the park's populations of deer mice might harbor the virus and pose a health risk to staff and visitors. Accordingly, park staff worked with the state of California and the University of California-Davis to test island mice for exposure to hantavirus. The results were surprising: although two islands showed no evidence of hantavirus, on three other islands the proportion of mice that tested positive for antibodies to hantavirus ranged from 18 to 71 percent. Concerned for the welfare of visitors and residents, the park posted hantavirus warning signs in park campgrounds and included information on hantavirus to campers and visitors. Twelve individuals, both park staff and island residents, including biologists who had handled hundreds of deer mice, and ranch workers who had worked and lived in mouse-infested conditions for years, were tested for exposure for hantavirus. None of those individuals tested positive for hantavirus.

In 1995, additional scientific research was conducted on deer mice and hantavirus in outdoor areas at the Channel Islands. The proportion of mice that tested positive for hantavirus antibodies in that study was 17 percent; close to the nationwide rate for deer mice, which is about 15 percent. It appears that the proportion of mice testing positive for hantavirus varies from year to year.

Because public safety and the safety of our employees are of primary concern, the NPS has developed an extensive and effective public information and education system, which has been commended by the Centers for Disease Control and Prevention (CDC) and the California State Public Health Department. Among other things, we have posted notifications at the mainland Robert J. Lagomarsino Visitor Center, on island bulletin boards, and at the offices of the three park concessioners. We have also included hantavirus information in the park's printed material and on its website; and made available in the park's visitor center detailed brochures from the state Department of Health about hantavirus, its prevention, and symptoms. We include hantavirus warnings in orientation talks on the islands given by park staff to visitors, and include warnings in printed materials given to visitors making campground reservations. We are continuing to explore ways to improve our communication about hantavirus.

I mentioned previously the recent incident involving a seven-year-old boy and a deer mouse on Santa Rosa Island. Over Memorial Day weekend, a local family visiting the islands on their private boat put ashore on a remote beach on Santa Rosa Island. After several hours on shore, the mother realized her son had been playing with a deer mouse for some time. The family spent the night on their boat. The next morning, the mother, concerned about the possibility of contracting hantavirus, returned to the beach and collected a mouse to bring it in for hantavirus testing. She delivered the mouse to the park visitor center on Tuesday, June 1. On Thursday, we sent the mouse to the California Department of Health Services to be tested for hantavirus antibodies. On Friday, the state informed us that the mouse had tested positive for antibodies to hantavirus, and the mother was alerted. The state and county health services departments have worked with the family and their physician to monitor the boy's health.

A positive test for antibodies does not mean that the mouse actually had or was transmitting hantavirus. The mouse was very young, a nestling that had not been weaned yet. There is a chance that it had antibodies to hantavirus because they had been passed from its mother, rather than as a result of actually contracting the disease on its own. Most rodent-to-rodent transmission is thought to be the result of aggressive, biting encounters among sub-adult mice. The mouse from Santa Rosa was too young to have engaged in such behavior. Nonetheless, the possibility that the boy could have contracted hantavirus from his contact with the mouse was sufficient to have the boy's health monitored for the duration of the incubation period, which is typically one to four weeks following exposure. During the first week after exposure the boy developed a fever and cough, which since disappeared. On Thursday, June 10, the boy's blood tested negative for

antibodies to hantavirus, indicating that he had not contracted the disease.

On Thursday, June 10, the California State Department of Health Service organized a conference call to assess the risk of hantavirus at Channel Islands National Park, in light of the recent request by Congressman Elton Gallegly to close the park. Participants in the conference call included staff from the park, the state Department of Health Services, Ventura and Santa Barbara County Department of Health Services, and the Centers for Disease Control and Prevention. The meeting participants agreed that although high mouse densities and the presence of hantavirus antibodies combine to create some risk, the risks to visitors at Channel Islands National Park are low, finite, and are insufficient to consider closing the park. The park has identified additional measures to warn the public of the risks of hantavirus.

Although the park received over 60,000 visitors a year, we are not aware of any documented cases of hantavirus. The risk of contracting hantavirus is actually much higher within structures. Efforts towards rodent exclusion have been on going in park facilities. This year we have taken additional steps to protect park employees. We have inspected all park residences for rodent-proofing needs, and will make structural changes this summer to rodent-proof all housing units.

In summary, the National Park Service continues to be concerned and proactive about the risk of hantavirus to both visitors and park staff, not only at Channel Islands National Park but at all parks where visitors or residents could come into contact with deer mice.

This concludes my testimony. I would be happy to answer any of your questions.

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